Crayfish Capture and Data Collection

What You Need

- Ruler
- Large Net
- Hook Pole
- Umbrella trap (multiple)
- Minnow trap (optional)
- Bait (Chicken wings, cat food, hot dogs)
- Crayfish Data Sheet
- Pen or pencil

- Bucket
- Twist Ties (or other object to secure bait to traps)
- Rope or twine (optional)
- Ice Chest (optional)
- Ice (optional)
- Fishing Bobber of Floater (one for each umbrella trap

Before Leaving for the Field

1. Notify the property owner that you will be trapping and removing crayfish in their area.

In the Field

1. When arriving at the location, survey the water for the presence of crayfish. If crayfish are found, proceed with the remainder of the protocol.

2. Setting and Checking the Minnow Traps
   a. Place a piece of bait inside the trap. Secure with a twist tie or similar object.
   b. Close and secure the trap.
   c. To catch larger crayfish, it may be necessary to increase the size of the openings.
   d. Tie a length of rope (approximately 15 feet) to the loop on the outside of the trap.
   e. Toss the trap in the water. Be sure to hold the other end of the rope.
   f. Make sure that one corner of the trap is above the water. This will insure that other animals (like frogs) that may get trapped will have access to air.
   g. Tie the other end of the rope to a tree or other secure object.
   h. This trap is intended to be in the water for a longer duration. It may be kept in the water overnight or through the entire length of the collection day. However, do not let the trap sit unattended for multiple days. This could endanger animals that were caught unintentionally.
   i. Before emptying the trap, fill the bucket about half full with water.
   j. Use the rope to pull the trap to shore.
   k. Open the trap and empty the contents into the bucket.
   l. Remove any animals that are not crayfish.

3. Setting and Checking the Umbrella Traps
   a. Using a twist tie or similar object, secure some bait to the bottom of the trap.
   b. Attach a floater to the top of the trap.
   c. Toss the trap into the water.
   d. While waiting, fill the bucket half full with water.
   e. After a few minutes, observe the trap.

f. If crayfish are seen on the trap, grab the hook pole. Put the hook through the top of the trap near the floater. Pull the trap out of the water.

g. Immediately, place a net under the trap. This will capture any crayfish that may fall out of the bottom of the trap.

h. Empty the trap and the net into the bucket.
i. Remove any animals that are not crayfish.
j. Repeat these steps as necessary until collection stops.

4. Crayfish Data Collection
   a. Remove crayfish, one at a time, from the water. It is best to grab the crayfish with your thumb and forefinger behind each of the claws.
   b. Turn the crayfish over to expose the underside.
   c. If necessary lay the tail flat.
   d. Observe just behind the swimmerettes. If a small hole or port is found, it is a female. If an extra set of swimmerettes is present, it is a male. See attached illustrations.
   e. Turn the crayfish over and lay it flat.
   f. Measure the length of the carapace in millimeters. This will extend from the point between the eyes straight back to the end of the main shell before the tail segments start. See attached illustration.
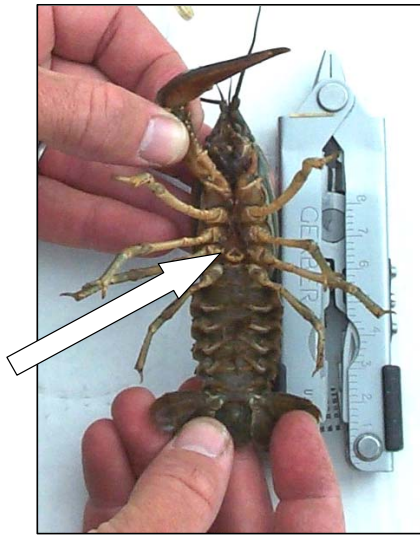   g. Record the sex and length on the data sheet.

5. Removing Crayfish
   a. It is illegal to transport live crayfish through most parts of Arizona. As a result, the crayfish that have been captured must be killed.
   b. Put about half of the ice in the chest. It should fill the entire bottom surface of the ice chest for a couple of inches.
   c. Pour the bucket filled with crayfish through one of the nets. This will filter the water out, leaving the crayfish in the net.
   d. Empty the net into the ice chest.
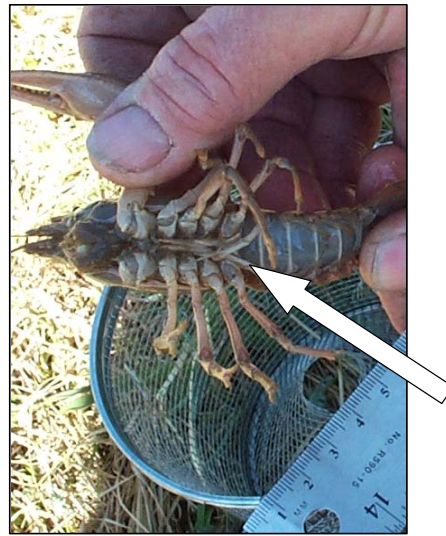   e. Pour the rest of the ice on top of the crayfish. Distribute evenly.

Returning from the Field

1. Crayfish can be cooked. If desired, you can contact a local animal rehabilitation facility to see if you can donate the crayfish for food.

2. Data sheets should be submitted to: Jeff Sorensen, Arizona Game and Fish Department, 2221 West Greenway Road WMNG, Phoenix, AZ 85023.

3. Cleaning Supplies
   a. All of the materials that touched water need to be cleaned and sterilized. This is particularly important if they will be used at a different location the next time.
   b. Prepare a 10% bleach solution bath.
   c. Dip all traps, nets, etc. in the bleach solution.
   d. Let the materials dry in the sun for at least 12 hours.

How to Tell Them Apart?

Female

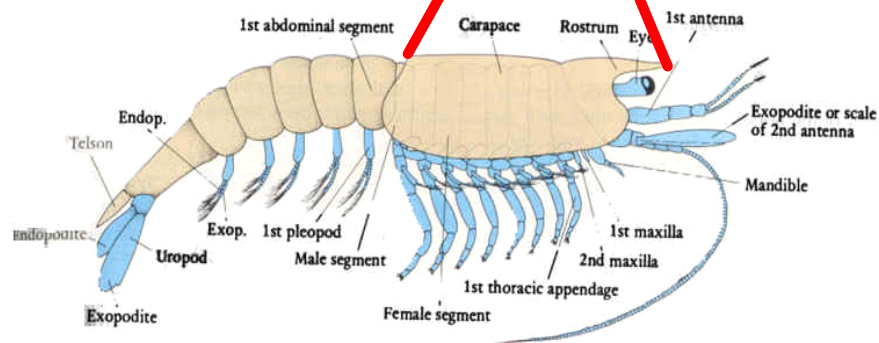**Male**

Measure the crayfish length from the tip of the rostrum to the back of the carapace (in millimeters).

Carapace Length

1st abdominal segment   Carapace   Rostrum   Eye   1st antenna

Endop.

Telson

Endopodite

Exop.   1st pleopod

Uropod

Male segment

Exopodite

Female segment

1st thoracic appendage

2nd maxilla

1st maxilla

Mandible

Exopodite or scale of 2nd antenna

Crayfish Data Sheet

GENERAL SURVEY AND LOCATION INFORMATION

School or Organization: _____

Lead Observer: _____

Contact Information: _____

Site Name: _____

GPS Data:　　Easting: _____　　Northing: _____　　Datum: _____

Directions to location: _____

_____

_____

Crayfish Observed? _____Yes _____ No

METHODS OF COLLECTION

Method 1 (Circle one)

　　　Visual Observation　　　Minnow Trap　　　Umbrella Trap　　　Other

Start Date: _____　　Start Time: _____

End Date: _____　　End Time: _____

Number of Traps: _____　　Bait Used: _____

Notes: _____

_____

Method 2 (Circle one)

　　　Visual Observation　　　Minnow Trap　　　Umbrella Trap　　　Other

Start Date: _____　　Start Time: _____

End Date: _____　　End Time: _____

Number of Traps: _____　　Bait Used: _____

Notes: _____

_____

HABITAT

Water Type (Circle one)

     River/Stream   Lake   Spring   Canal/Ditch   Stock Tank

Primary Substrate (Circle one)

     Bedrock/Boulder   Cobble/Gravel   Mud/Sand/Silt

Notes: _____

_____

WILDLIFE

Total Number of Crayfish Trapped: _____

Other Species Captured in the Traps?   _____ Yes   _____ No

If YES, circle all that apply: Fish   Frog   Salamander   Snake   Mammal   Other: _____

Notes: _____

_____

Other Species Observed in the Water?   _____ Yes   _____ No

If YES, circle all that apply: Fish   Frog   Salamander   Snake   Mammal   Other: _____

Notes: _____

_____

Please return data sheets to: **Jeff Sorensen, Nongame Branch**
Arizona Game and Fish Department
2221 W. Greenway Rd.
Phoenix, AZ 85023

Email: jsorensen@azgfd.gov

CRAYFISH CAPTURE RAW DATA

Site Name: _____   Date: _____

(Sex: **M**ale, **F**emale, or **U**nknown)   (Length in millimeters)

	Sex	Length	Sex	Length	Sex	Length	Sex	Length	Sex	Length
1										
2										
3										
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Total # of Males:_____   Total # of Females: _____   Total # of Unknowns: _____